

REMARKS

Claims 1-3, 5-9, 11, and 13-20 are pending in the current application. Claims 1, 9, and 11 are independent claims. Claims 4, 10, and 12 have been cancelled. No new matter has been introduced through this amendment.

Priority, Information Disclosure, and Drawings

Initially, Applicants thank the Examiner for considering the documents filed in the Information Disclosure Statement of September 8, 2003, and for the return of the initialed form PTO-1449. Applicants also thank the Examiner for acknowledging the claim for foreign priority, the receipt of certified copies of the priority documents, and acceptance of the drawings as originally filed.

Allowable Subject Matter

Applicants thank the Examiner for indication that claims 5-8 and 13-20 contain allowable subject matter.

Claim Rejections – 35 U.S.C. § 102

Claims 1-4 and 9-12 stand rejected under 35 U.S.C. § 102 (e) as being anticipated by Kudo (US 6,753,880, hereinafter Kudo). Applicants respectfully traverse this art grounds of rejection.

Applicants submit that independent claims 1, 9, and 11 recite “the bias current is changed during a charge period or a discharge period, which is a period during which the output buffer is to apply the analog voltage to the capacitive load”. Kudo, at least, does not teach such a feature.

Kudo discloses that the driving period of a display device is divided into “charging and discharging period” and “stable period”, and the liquid crystal panel consumes little current in the stable period (see Kudo, FIG. 8C and 21; Col. 16, Line 44 to Col. 17, Line 9). This indicates that the liquid crystal driving circuit has substantially completed charging and discharging of a pixel capacitance in the liquid crystal panel at the beginning of the stable period (see Kudo FIG. 8B and 8C). In the seventh embodiment of Kudo, which the Examiner referred to regarding claims 4, 10, 12 in the Office Action dated May 17, 2006, the steady-state current values in the stable period are made lower as compared with the charging and discharging period (see Kudo, Col. 16, Line 24-29 and Line 35 to Col. 17, Line 9; FIG. 21-24).

In an example embodiment of the present invention, a dot-sequential driving may be performed (see Specification, Page 11, Lines 21-25 and FIG. 1) while a line-sequential driving is performed in Kudo (see Kudo, Col. 4, Lines 28-31; col. 6, Lines 4-6; FIG. 1). In dot-sequential driving, a period which can be secured for charging one pixel capacitance is very short. For example, assuming that each display line includes 100 pixels, the charging period for one pixel in dot-sequential driving is one hundredth of that in a line-sequential driving. Accordingly, dot-sequential driving cannot afford a “stable period” and the next pixel is targeted for charging on completion of a pixel charging. Furthermore, in some dot-sequential driving methods the next pixel is targeted for charging before a pixel capacitance is charged completely. Therefore, example embodiments of the present invention are not predicated on the existence of the above-mentioned stable period in the driving period, and the driving method of Kudo, which is predicated on existence of the stable period, cannot be applied.

Claim 1 of the present application recites “the bias current control portion changes the bias current during charge period or a discharge period, which is a period during which the output buffer is to apply the analog voltage to the capacitive load”. Accordingly, claim 1

distinguishes over Kudo in that the bias current is changed during the charge period or the discharge period. Similarly, Claims 9 and 11 distinguish over Kudo.

Therefore, for all of the reasons stated above, Kudo does not teach or suggest the limitations of claims 1, 9, and 11. Claims 2-3, 5-8, and 13-20, are likewise allowable over Kudo, at least by virtue of their dependency on independent claims 1 and 11.

Applicants respectfully request the Examiner withdraw this art grounds of rejection.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of claims 1-3, 5-9, 11, and 13-20 in connection with the present application is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants hereby petition for a two (2) month extension of time for filing a reply to the outstanding Office Action and submit the required \$450 extension fee herewith.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Donald J. Daley at the telephone number of the undersigned below.

Application No. 10/656,33
Attorney Docket No. 83993-000002/US

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By: 
Donald J. Daley, Reg. No. 34,313

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

DJD/JRS:aeh
ors